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ABSTRACT

Researchers who use the concept of school climate in their research should be aware of the ways in which climate can be measured and what the different methods of measurement imply. Among the typical kinds of measures of school climate currently in use are normative approaches that focus on students' and teachers' perceptions of school norms, ecological approaches that focus on classroom behavior as perceived by participants, and external observation methods that bring in outside observers to collect quantitative or qualitative data. The literature on organizational climate suggests additional factors to consider when selecting measurement techniques or analyzing the findings of research. First, conceptual distinctions have been found between organizational climate, group climate, and psychological climate. Second, quesitons exist concerning whether several climates may exist in an organization if the members of the organization are not in agreement in their perceptions. Third, the various methods for measuring climate may not share the same level of validity. Fourth, the effects of environmental change on perceptions are unclear. Fifth, differences among individuals may account for some variations in perception of climate. Specific research efforts are cited as typical examples of the different measurement methods discussed. (PGD)

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Measures of School Climate: Needed Improvements Suggested by a Review of the Organizational Literature

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Measures of School Climate: Needed Improvements Suggested by a Review of the Organizational Literature

This paper is in three parts. First, it briefly reviews measures of school climate. Then it summarizes literature dealing with organizational climate, primarily in work settings. Neither review is exhaustive, but both are aimed at noting measurement issues that should be taken into account by researchers who use the notion of school climate. The final section of the paper deals with concerns that future research should address.

Measures of School Climate

The material presented in this section is neither a comprehensive review of measures of school climate (see Anderson, 1982 for such a discussion) nor a review of the relationship of school climate to student achievement (see Stockard and Mayberry, 1985, for a discussion of this area). Rather, it is a brief description of some measures of school climate that are typical of those used in the field and that illustrate some of the measurement issues to be discussed in other sections of this paper.

A Normative Approach -- One large group of school climate measures involves those that Anderson (1982) has suggested take a sociological perspective. They focus on students' and faculty's perceptions of norms within a school and the expectations held for student achievement. The research on educational climates in high schools by McDill and his associates (e.g. McDill and Rigsby, 1973; McDill, Meyers, and Rigsby, 1967; McDill, Rigsby, and Meyers, 1969) is one example of this approach. Building on the work of Selvin and Hagstrom (1963), McDill and his associates formulated their own measures. These measures of school climate came from reports of students and teachers "on the behavior and attitudes of 'most

students' or 'most teachers'" (McDill and Rigsby, 1973: 37). McDill and Rigsby note that the items were chosen primarily to measure both the perceptions of "informal social pressure exerted by teachers on students" (e.g. students' perceptions of amount of homework) and "student sub-cultural or peer group norms, values, and orientations that emphasize high achievement and educational ambitions" (McDill and Rigsby, 1973:37).

For their analysis, a total of thirty-nine variables were reduced to six factors: 1) academic emulation, concerning the general academic and intellectual tone of the school environment; 2) student perception of intellectualism-estheticism, dealing with students' perceptions of the "press" of the environment; 3) cohesive and egalitarian estheticism, measuring the extent to which intellectual criteria, as opposed to family background, are used as a criterion for status in the student social system; 4) scientism, a relatively pure factor dealing with the "degree of scientific ferment in the school;" 5) humanistic excellence, dealing with both the student and faculty press toward work in the humanities and social sciences; and 6) academically oriented student status system, which deals exclusively with the nature of variables important in gaining prestige among student peers (McDill and Rigsby, 1973:38-39). For the analysis, the responses given by individual students and teachers to each of the items on these scales are aggregated and total scores for each school are computed.

While the work of McDill and associates is clearly oriented toward high schools, and the scales appear to require a fair amount of reading ability on the part of students, the work of Wilbur Brookover and his associates (e.g. Brookover, Beady, Flood, Schweitzer, and Wisenbaker, 1979) is aimed directly at assessing school climates in elementary settings. Like McDill's work, Brookover's seeks to understand the normative climate in which students and faculty work, and the scales used in his work result from factor

analysis of a large set of items. A number of items are summed to create each scale and scores for each school are computed by aggregating information from people within that school. Unlike McDill, Brookover identifies separate climate measures for students, teachers, and principals. All of these measures, however, involve perceptions of the normative environment of the school.

For students, five climate aspects were measured: sense of academic futility, perceived future evaluations and expectations, perceived present evaluations and expectations, perception of teacher push and teacher norms, and academic norms. Five climate variables were also identified for the teachers: their evaluation of students' ability to complete college; their evaluations of students' ability to complete high school; teacher and student commitment to student improvement; perception of the principal's expectations for students' achievement; and the teachers' sense of futility in working at their school. Four climate variables were identified for the principals: principals' perceptions of parent concern and expectations for quality education; principal's efforts to improve student achievement; evaluation of present school quality and parents' commitment to students' achievement; and principal's expectations and evaluations of students.

An Ecological Approach -- What I term, in line with Anderson (1982), the "ecological approach" includes measures of learning climates that stem from theorists who embrace ecological theory (see Stockard and Mayberry, 1985). The work of these theorists has generally focused on classrooms rather than entire schools, and on settings outside of schools. Even so, the aspects included in the measures are informative, primarily because they tend to include more aspects of the school or classroom environment than do those that assess primarily the normative climate. Although a large number of

scales have been developed using these notions (see Nielsen and Kirk, 1974, for a review), two of the most commonly used, both typical of the approach, will be discussed here.

A widely used measure is the Classroom Environment Scale (CES) developed by Trickett and Moos (1973; see also Moos, 1979) for use in junior high and high school classrooms. Based on extensive observations, interviews, and literature reviews the authors identified aspects of classroom settings that tended to differ from one class to another. A large number of true-false items were constructed that would allow students to assess the nature of their environment. In contrast to the measures of normative climates, a much broader range of perceived behaviors and expectations are tapped. Just as with the normative measures, however, the CES is based on students' assessments of the environment.

A total of nine subscales were developed to analyze three different domains of classroom environments. These include a relationship dimension with three subscales: involvement, measuring the extent to which students are attentive and interested; affiliation, measuring the extent of student friendship and mutual help; and teacher support, measuring the perceived help, interest, and trust shown to students by the teacher. A personal growth or goal orientation dimension includes two subscales: task orientation, the perceived importance of completing planned activities; and competition, in which the emphasis is placed on students competing for good grades and on the perceived difficulty of attaining good grades. A system maintenance and change dimension has four subscales: order and organization, the perceived stress in the classroom on orderly behavior and organization of activities; rule clarity, the perceived emphasis on establishing, following, and enforcing a clear set of rules; teacher control, how strictly the teacher enforces rules; and innovation, the variety of activities planned by the

teacher and the contribution of students to planning class activities (Moos, 1979: 141).

Another widely used scale that tries to tap many aspects of the classroom environment is the Learning Environment Inventory (LEI) (see Anderson and Walberg, 1974). While the LEI was developed for older students, a similar scale, My Class Inventory (MCI) (Anderson, 1973), has been designed for younger children. Given the similarities of the two scales, my discussion will focus on the more widely used LEI.

Like the CES, the LEI is based on students' perceptions of their classroom environment and tends perhaps to be less threatening to teachers because it does not explicitly focus on teacher characteristics or behaviors. The measure has 15 different subscales, which Anderson and Walberg (1974: 83) claim "are intended to be comprehensive and valid for predicting learning outcomes." The subscales (with sample items) are

1. cohesiveness (members of the class are personal friends),
2. diversity (the class divides its efforts among several purposes),
3. formality (students are asked to follow a complicated set of rules),
4. speed (the class has difficulty keeping up with its assigned work),
5. environment (the books and equipment students need or want are easily available to them in the classroom),
6. friction (certain students are considered uncooperative),
7. goal direction (the objectives of the class are specific),
8. favoritism (only the good students are given special projects),
9. difficulty (students are constantly challenged),
10. apathy (members of the class don't care what the class does),
11. democratic (class decisions tend to be made by all the students),

12. cliqueness (certain students work only with their close friends),
13. satisfaction (students are well-satisfied with the work of the class),
14. disorganization (the class is disorganized), and
15. competitiveness (students compete to see who can do the best work) (Anderson and Walberg, 1974: 84-85).

In comparing these subscales to those used by McDill and Brookover, the much broader coverage of the LEI is immediately apparent. While the scales within the normative framework focus almost exclusively on the norms surrounding academic achievement and support from teachers, the subscales in the LEI are much more wide-ranging, involving various aspects of classroom organization and student attitudes, as well as academic-related norms.

External Observations -- Both general types of measures discussed above depend on students', and sometimes teachers' and principals', perceptions of the nature of the school and its environment. Another set of measures uses outside observers as a means of assessing the climate of a school or a classroom. One type involves rather rigorous, detailed quantitative observations. The other general approach involves more qualitative, subjective assessments of the nature of schools.

A large number of classroom observation schedules have been developed. They usually share the aim of recording and categorizing student and teacher behaviors with as little involvement of the students and teachers as possible and with as little interference in the classroom process as possible (see Nielsen and Kirk, 1974, for a summary of these measures). Probably the most elaborate and widely used instrument has been Flanders' Interaction Analysis System (IA) (Amidon and Flanders, 1963). This scoring system focuses on the teachers' and students' behavior in the classroom,

distinguishing between "indirect" and "direct" influence of the teacher. Indirect influence of the teacher involves teacher behaviors in the following categories: accepts feeling, praises or encourages, accepts or uses ideas of students, asks questions. Direct influence includes lecturing, giving directions, and criticizing or justifying authority. Student actions are categorized as student talk that responds to others, student talk that initiates topics, and silence or confusion. A number of other observation schedules have been inspired by Flanders' work, all attempting to analyze the nature of the classroom climate by counting and categorizing the nature of students' actual behaviors (see Nielsen and Kirk, 1974 for descriptions of some).

In contrast to these fairly quantitative attempts at measuring school climate are the more subjective approaches to describing student life and school life. Classic examples of this form of work are the writings of Cusick (1973), Jackson (1968), and Wolcott (1973). Each of these researchers used ethnographic fieldwork to examine the nature of school life. Cusick focused on the lives of students in a high school, Jackson on the lives of students in elementary schools, and Wolcott on the experiences of school principals. While their efforts, and other similar works, are not usually cited as part of the general approach to school climate, their approach provides an especially valuable adjunct to other methods of assessing school climate. An ethnographic approach has the advantage of being relatively unobtrusive (often less so than the quantitative measures discussed directly above), is an independent assessment of the nature of a school, does not rely on the perceptions of participants, can assess many of the subtle aspects of school life not tapped by the other scales, and can assess school life over a longer period of time than is possible with the surveys used with the normative and ecological approaches.

Organizational Climates

The literature on organizational climates is wide-ranging, and involves researchers in psychology, sociology, and business. While some of the development has overlapped that dealing with school climates--most notably some of the work associated with ecological psychology as represented by Moos (1979)--most of the work has focused on work organizations. There are some basic differences in research that deals with school climates and research that deals with organizational climates, most notably the voluntary association of workers with their jobs as opposed to the usually compulsory involvement of students with their schools. In many senses the literature on organizational climate might be most directly applicable to teachers' perceptions of schools as work organizations. Yet students also work in schools, and the aim of much of both the general literature on organizational climate and the literature on school climate is to help those who work in organizations and schools do a better job. I believe the commonalities are strong enough to merit closer attention to the organizational literature.

The literature on organizational climate, which is much more developed than the literature on school climate, has reached the point where some conceptual distinctions and research issues raised in the literature may be helpful to those studying school climate. Below I describe the types of measures that are used in studies of organizational climate and then discuss some of the questions regarding measurement that have been raised in the literature.

Measures of Organizational Climate -- Measures of organizational climate parallel those of school climate in that they involve both direct measures of perceptions of the work environment (gained either through

interviews or questionnaires) (e.g. Jones and James, 1979; Drexler, 1977) or indirect measures through observations, historical analyses, or even experimental manipulations (e.g. Deal and Kennedy, 1982; Peters and Waterman, 1982; Pettigrew, 1979). Extensive analyses of various aspects of climate suggest that the measures generally involve five different dimensions: work roles, jobs, leader behavior, work groups, and the nature of the organization itself (see James and Sells, 1981). However, the number of dimensions measured tends to vary from one scale to another (see Field and Abelson, 1982; Hellriegel and Slocum, 1974).

Issues in the Measurement of Organizational Climate -- The literature regarding organizational climate seems to agree that the construct is important because "it provides a conceptual link between analysis at the organizational level and the individual level" (Field and Abelson, 1982: 181). Yet the literature regarding measures of organizational climate poses a number of conceptual and methodological issues.

One issue that received a good deal of attention for a number of years was the validity of the concept "organizational climate" itself. Critics suggested that the use of the term involved a conceptual tautology, with, for the most part, the term organizational climate duplicating other situational characteristics such as group structure, context, and process (see James and Jones, 1974; Gavin and Howe, 1975; Johannesson, 1973). The result has been a conceptual distinction between organizational climate, group climate, and psychological climate (see Field and Abelson, 1982; James and Jones, 1974; Gavin and Howe, 1975) and a model that tends to focus on psychological climate "as a perceptual phenomenon which occurs within each individual. Psychological climate is determined through the interaction of quasi-facts and intersubjectivity" (Field and Abelson, 1982: 196). This

moves the notion of organizational climate from a seemingly abstract rendering of a group mind to a probably more accurate notion involving individuals' perceptions of their environment. One could say that group and organizational climates exist to the extent that individuals within groups and organizations agree on their perceptions of their environment.

To what extent, however, do individuals within groups and organizations agree on their perceptions of climate? In other words, to what extent is it legitimate to aggregate perceptual measures of climate obtained from individuals within a group or organization (see James and Sells, 1981)? This is a second area of concern. In an empirical test of this issue, Joyce and Slocum (1984) provide a means of actually testing the existence of agreement within groups and discovering subsets of members with similar perceptions.

A third area of concern involves the different ways of measuring and assessing climate. Woodman and King (1978) note the need for assessment of the validity and reliability of measures of climate. They especially note the need to deal with the perceptual measures and the more objective measures of climate and the need to determine if they are assessing the same thing. Similarly, Field and Abelson (1982) note the need for more experimental and longitudinal studies to compensate for the overrepresentation of one-shot correlational studies in the literature.

Fourth, recognizing that organizations and groups can change, James and Sells (1981) ask what it is about the environment and changes in the environment that can cause changes in the ways people perceive it. Are some environmental alterations more important than others? Experimental and field studies may be an important way of investigating this question.

Fifth, and finally, it must be recognized that individuals within a group or organization may perceive the group in different ways. What can

account for these individual variations? Are there variables related to individuals that can account for their different perceptions (James and Sells, 1981)?

Implications for the Study of School Climate

I believe that those studying school climate could learn from the vast literature on organizational climate. First, I believe that research on school climate would be well served by acknowledging the differences between psychological, group, and organizational climate. Perhaps all too often the literature on school climate assumes that climates are unitary within a school and conclusions are made about effects on the aggregate level without adequate controls on the individual level (see Stockard and Mayberry, 1985). Researchers should be careful both in their conceptual use of the term school climate and in their assessment of the actual presence of group and organizational climate before proceeding to analyses using those variables.

Second, while a fair amount of research has used school climate as an independent variable, especially in examining its effects on student achievement, somewhat less has focused on what influences different types of school climates. In other words, following the concern of organizational researchers regarding the effect of environmental changes on changes in perceptions of organizational climate, it seems important to ask how schools can be changed to develop more effective school climates. More specifically, what type of changes in schools are most important in promoting effective school climates?

Finally, it must be recognized that students within the same classroom and school can have different perceptions of the environment in which they work. What influences these different perceptions? Can variations in perceptions be altered by changes within a classroom or school?

Do the variables that can account for variations in climate perceptions also account for the variation in achievement that school climate is said to account for? That is, if we can understand the variables that influence differential perceptions of school climate, can these variables actually account for the supposed explanatory power of school climate?

Clearly, further research is needed in each of these areas. Moreover, I believe that claims made for the utility of school climate as an important explanatory variable in accounting for student achievement must be cautious until issues such as these are clarified.

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